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R E P L Y

T O

Some ASSERTIONS.

Publish'd in a PAMPHLET, Entitled,

The SCHEMES for INLAND-
NAVIGATION from *Dublin* to
the *Shannon*.

With some REMARKS relative thereto,

By MATTHEW PETERS.



D U B L I N :

Printed in the Year MDCCCLV.

REPORT

TO

SOME ASSERTIONS

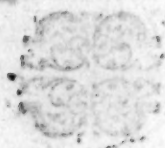
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T O

Some ASSERTIONS, &c.



S I have no Point to carry, but to justify my self, and serve the Publick, by clearing up some Assertions lately published, intituled, *The Schemes for Inland Navigation from the City of Dublin to the River Shannon, &c.* so I shall make no other Apology, or *Preface* to its Introduction, agreeing with that Author, That cavilling at Facts, that admit of Demonstration from Experiment, is endeavouring to drown the Voice of Truth.

I don't apprehend any Necessity to reply to the first Allegation in said Pamphlet (p. 6.) relating to a Line drawn with a Pencil from the South of *Dublin* near the *Bason* in *James's-Street* to *Ban-*

nagher, as the first Produce to this favourite Scheme; but shall enter on the second, or next Work that the Author of said Pamphlet mentions to have been produced.

This was a Work, says that Author (p. 7.) of Mr. *Peters's* from *Bannagher* thro' part of the *Brosna* to the Head of the *Barrow*, the Levels appear in the Space of six Miles, by said Survey, to rise about 143 Feet, 120 of which appear within the Space of three Quarters of a Mile, and will require twenty Locks: This (says that Author) was withdrawn as being impracticable.

That Author's Reason for publishing such an Assertion contrary to Facts, I cannot conceive; but I beg leave to put a favourable Construction, of his being deceived, and not out of any Design to impose a Fallacy on the Publick.

Before I proceed to a Reply on this Head, I must beg a little Digression, and then proceed to answer that Author's Paragraph.

In the latter part of the Summer-season 1753, I was ordered from the *Shannon* Navigation (being then employed by the Right Hon. the Navigation Board as Pay-Clerk and Assistant to that Work, which was then under the Direction of late Mr. *Scanlan*) to take the Levels between the *Shannon* and *Dublin*, as far as the Season or Absence from the Navigation would permit; beginning at the Influx of the *Brosna* with the *Shannon* towards the *Barrow* River.

In this Course I proceeded up the *Brosna* River to *Castlecoole*, *Frankford*, *Ballyboy*, *Ballynacorgie*, *Togher Menaborina*, and to the River *Barrow* at *Lough Duff*. I can't pass over mentioning the the Kindness and Assistance of Mr. *M'Gawly* of *Frankford*, without doing that Gentleman Injustice, as he was of particular Service in going with me from *Frankford* to the *Barrow*.

Thro

Thro' all this Course nothing appeared disagreeable as to the Soil, or any part destitute of Water, the Land in general where the Water-Course was traced, was Loam, Gravel, and Marsh, except within about six Miles of the *Barrow* at *Lough Duff*, and even much of that was marshy Land, which Surface in the general wherever it appears, has in a few Stratum a solid Foundation, sometimes a strong Clay, other times a gravelly Substance mixt with a black Clay, this Soil is not the worst for Canal Work, the Lengths of which is in the Plan of Levels now before the Committee, or in the Hands of the Honourable Navigation Board.

Supposing six Miles at the *Barrow* End to be Bog, it is in general good Bog; but even if that is any Objection, it can be obviated by carrying the Course about a Quarter of a Mile nearer the *Queen's County* High Land, at the * *Togher Monaborina*, and with great Deference to that Author, am certain that well drained Bogs so near a Navigation would be carested, instead of being despised, and make many happy, as well as make a large Quantity of Arable and Tillage Land, which, if I mistake not, is complained of with great Regret, that so much improveable Land (as all Bogs are that can be drained) as this Kingdom abounds with, lies uncultivated and neglected. I think I have heard, the Tillage Act was partly grounded on that System, its Produce is so well known to every Country Gentleman, that a Dissertation on it is needless.

I can't help taking notice of an Objection another Person made as to this Course for a Navigation. Says he, the Water that has its Rise in the

* *Togher Monaborina* is in my Plan of Levels.

Bog near * *Lough Annab*, and running by *Ballyboy*, *Frankford*, and empties itself into the *Brosna*, as it receives two Mountain Rivulets (which I shall hereafter mention) and is thereby liable to be choaked with Sand in the Winter, and has too little Water in the Summer, plumps a Negative (not like an experienced Engineer) on it at once, and says, therefore can't be made use of.

In order to answer those Objections that may perhaps be started again by undiscerning Persons, I shall make a short Reply.

As to the Objection of too much Sand coming down with the Mountain Floods from these two Rivers, and choaking a Canal, is easily obviated; for as these Rivulets are only occasionally made use of, the Current is turned to Advantage or diverted in its own Course.

As to the next Objection of having too little Water in the Summer, there are two Mills on these Rivers; and in my Plan of Levels are called the *Gaura* and *Clondaslee* Rivers, and joins together as *per* said Plan of Levels about seven Feet higher than *Lough Annab*. Therefore these two Rivers can be made use of both in Winter and Summer; in Summer there is Stream enough to turn two overshot Mills constantly, as the Millers informed Mr. *McGawly* when we examined them strictly on that Head, but as the Distance in this Course is short, that may require any Assistance of Water, there is abundance from many Streams of lesser Note.

These Objections being answered, we come now to a larger Body from the *County River* meeting another Rivulet from *Killaby* Mill, and many others which runs thro' *Ballynacorgie*, *Balkiboy*, *Frankford*, *Lumcloone* to the *Brosna* at *Castlecoole*,

* *Lough Annab* is in the Plan of Levels,

Fairbane, Moystown, and empties itself into the *Shannon*, which Course is gentle, and many Lengths stagnated, but no part forms any Appearance of a Cataract, which leads me to clear up the great Mistake, that the Author of said Pamphlet has asserted as Fact.

At the Bottom of (p. 9.) that Author says, ' That the Rise out of the *Shannon* near the *Brosna* (as before mentioned) in three Quarters of one Mile affords one almost perpendicular Stage of Locks for upwards of 120 Feet, which requires 20 Locks ; so that 12 Miles at *Dublin* End, and less than a Mile near the *Brosna*, produce 49 Locks.' Strange Assertion! I can't help appealing to *Henry L'Estrange*, Esq; who lives on the Spot, to testify to the Honourable Committee, this great Error; to the Publick I shall in one View demonstrate the Error of this Assertion, by the Levels in seven Miles at the *Brosna* End next the *Shannon*.

	M. Q.	F. I.
From the <i>Shannon</i> to <i>Moystown</i>	} 1—2	Rise 3—7
up the <i>Brosna</i> ———		
From <i>Moystown</i> to <i>Fairbane</i> —	6—0	Rise 8—7
	7—2	12—2

A convincing Proof of the mistaken Assertion; for in seven Miles and an half at the *Brosna* End it rises but twelve Feet two Inches, and in order to make it still more apparent, I have at the End of this Treatise set down the whole Levels and Distance distinctly from the Mouth of the *Brosna* to the *Barrow*.

How mistaken must that Author be to assert so great a Fallacy, nay, to the highest Ground in this Course, called the Top of the Bog in my

Plan of Levels, is but one hundred forty one Feet two Inches and an half in about twenty-four Miles.

Thus, I have cleared to the Publick how false that Author's Reason is, when he says, it was that Impracticability that caused the withdrawing the *Barrow* Scheme. But I am informed by a Member of the Honourable Committee, that he did not hear of such a Scheme being withdrawn, till he saw it in that Author's Pamphlet.

The Author then proceeds in (p. 7.) that the next Plan offered was a Map made up from different Traces, of Parts of said Line, made by Mr. *Peters*, Mr. *Wallis*, and others, and directing towards the *Bog of Allen*, which is of great Extent, and admitted not to have been levelled or surveyed as yet: From thence to *Dublin* there is an imaginary Line, not supported by any regular Trace or Level taken, tho' the Country in general is admitted to be very unpromising for Tillage, and one continued Chain of Bogs and Marshes, from *Dublin* to the *Shannon*.

Whether or not such a Plan was formed I can't say; but much wonder that if my Levels had appeared to have past over so unequal a Course at the Beginning of a Navigation as 120 Feet Rise in less than a Mile, condemned and withdrawn, that another should immediately appear from the same Foundation (for no other have went from my Hands) is a matter of much Astonishment. But even admit a general Course to have been formed, without surveying the Ground or taking the Levels, if from an experienced and steady Man (not of Flights, imaginary Schemes, or Wild-Goose Chases) it ought to meet with Reception. A Man of Knowledge and Experienced Skill (for that is the Man) will judge most clearly of the Practicability

bility of a Navigation, and whether easily formed or more difficult, he sees and judges with different Eyes and understanding Intellects, from unexperienced Persons ; Surveys and Levels are agreeable and useful, and Execution can't be apply'd without them ; but that is (unless visible Difficulties are apparent) more for Satisfaction, or Amusement to his Employers (like Estimates) than real Good, And if from certain Knowledge, an experienced Man reports the Trace of Countries with its Soil, its Rivers, its rising and descending Plains, is as much for its Practicability as if he had known, or his Employers known, the Lengths, and different Numbers of Feet in every Yard, till he went to work—then indeed he must form his Plan near the matter, but even from thence unforeseen Things will alter designed Courses.

I shall now give some Account of the Situation and Soil from *Dublin* to the *Sbannon*.

In the Year 1738 the Levels was taken for the City of *Dublin* between *Dolphin's-Barn-Lane* at the Custom-House, to *Turnings Ware* on the *Liffy*, thirteen Miles from *Dublin* ; the Course was thro' the Commons of *Lyons*, and appears by said Levels to be a Rise of 150 Feet to *Turnings Ware* ; this Course on the South of the *Liffy*, and also any other from *Dublin* to the *Liffy* as far as *New-Bridge* near the *Curragh*, is free from Bog, the Course well watered, free from unsurmountable Difficulties, nay so promising, that the City had Thoughts to make a Water-Course to bring Water from thence to the *Bason* in *James's-Street* : I don't infer from this, that at *Turnings Ware* is meant a proper Place to cross the *Liffy* for a Communication to the *Bog of Allen* ; this is only part of the Way ; the remaining Part of about seven Miles on the same Side of the River, to
within

within half a Mile of *New-Bridge* the Country promises a fair Course for a Navigation; and answers one of that Author's Queries, that the *Liffy* is a Head for the *Dublin* End of the *Barrow* Scheme.

Being now on the *Liffy*, within half a Mile or less of *New-Bridge* at *Rasberry Bog*, and about twenty Miles from *Dublin*, I shall have Occasion to speak of its Situation. The Banks here are lower than any other Part adjoining the *Liffy*; *Rasberry Bog*, so called, and by the Maps of *Ireland*, joins the *Liffy*. Sir *William Petty*'s Map being the Original, most of the others are copied from it, it is very probable when Sir *William Petty*'s Survey was made, that it was Bog; but is now a very fine Arable Pasture, and has all the Appearance of an improved Piece of Bog. The Banks here are about six or eight Feet above Low-Water, and in time of Flood rises near its Surface, flows into a Ditch of Division which ends at the *Liffy* Side, and runs through to an adjoining Bog under *Rasberry Hill*.

This Part of the *Liffy* Banks is the most promising by Nature of any between *New-Bridge* and *Dublin*, and is also a shorter Space thro' Bog, and falls immediately into the *Rathangan* River; its Descent from this Part of the *Liffy* is an immediate gentle Departure to *Rathangan*, between the *Curragh* and the *Island of Allen*; a Canal may be formed through the Bog, or by its Side; the *Liffy* Water can be formed as a Reservoir to assist this Part of a Navigation for about three Miles; from thence to *Rathangan* there is an Appearance of sufficient Water, many Rivulets still increasing. The *Rathangan* Water rises near the *Island of Allen*, and a little below *Rathangan* runs into the *Clonbullock* River, which takes its Rise in a Bog near *Edenderry*,

Edenderry, not far from the Head of the *Boynes* and runs through *Comber Bridge*, *Clonbullock*, and into the *Barrow* near *Brakenagb*, a little above *Monasterevan*. *Philipstown* and *Esker* Rivers run into the *Clonbullock* Water, as also the *Cushing* River that runs from the *Welsh Island*.

Here is almost a level Country, with or without Bog, gently rising up to *Lough Duff*, near the Head of the *Barrow*, mostly marshy, and some dry Ground; but the able Engineer may choose his Course; as he has a Command of Water, he may either follow the natural Course from *Lough Duff*, or step aside on firm Ground, and keep his horizontal Level, which is most probable, as the *Barrow* meanders much between its Head and *Portarlinton*.

Having in the former Part of this Treatise mentioned the Course from the *Barrow* at *Lough Duff* to the *Brosna* and *Shannon*, which was levelled. And having also mentioned a Course very promising from *Dublin* cross the *Liffy* near *New-Bridge*, to *Rathangan*, near *Monasterevan*, *Portarlinton*, and to near its Head at *Lough Duff*, which have not been levelled (except a Part from *Turnings Ware* to *Dublin*) and having in their Course answered (that Author, p. 10, at the Top, where is said, where the Head of Water to fill them don't appear) where the Heads of Water do appear, shall now make a short Calculation, or general Estimate on the Whole.

The Levels, as *per* my Plan of Levels, appear to be 173 Feet up and down, in 28 Miles. Then suppose 70 Miles to be the Distance from the *Brosna* Influx to *Dublin*, the Proportion will be thus :

As 28 Miles from the *Shannon* to *Lough Duff* on the *Barrow*, produce up and down 173 Feet in
different

different Levels, so will 70 Miles the whole Length produce a Proportion on the Whole.

Miles. Feet Miles Feet.

As 28 : 173 :: 70 : 432.

The Proportion on the Whole appearing to be 432 Feet up and down from *Dublin* to the *Shannon*, and allowing 8 Feet to be taken off at each Lock, there will be 54 Locks, then say,

54 Locks at 800 *l.* each ————— 43,200

A Canal at 30 Feet, the Medium in Breadth, and 6 Feet deep at a Medium for Digging-work, at a Perch in Length, produceth 140 solid Yards at 6 <i>d.</i> a Yard, makes 3 <i>l.</i> 10 <i>s.</i> to each Perch in Length, there being 320 Perch to one Mile, make 1120 <i>l.</i> for each Mile's Labour— 70 Miles at 1120 <i>l.</i> each	}	78,400
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121,600

This Calculation is reasonable to make on the Whole, it being proportioned from what has always been deemed the greatest Obstruction in this Course, *viz.* from the *Shannon* to the *Barrow*; this at present may suffice for its Practicability, and within moderate Bounds, 'till the Levels can be taken through.

There are two other Courses talk'd of to form a Communication between the *Shannon* and the *Barrow*, *viz.* To proceed up the *Brosna* to *Castle Rammullion*, and then turning southward, there are two Rivulets, one to *Tullamore* and *Logmor* Mill, proposed to cross *Rathfestan* Bog to the *Cushiny* River. I have viewed this Course, and have the Levels in my Custody, over this Bog to *Clonbullock*. I see no Feasibility for a Navigation.

The

The other Rivulet runs by *Redwood*, and its Course is near the *Barrow* and near *Lough Annab*, That Course I have not thoroughly viewed, but appears to be much the longest Line to the *Barrow* by some Miles.

R E M A R K S.

ON E continued Chain of Bogs does not appear unless the Links are acknowledged to be very gross.

A Head of Water to the *Brosna* from the *Barrow* does appear, and a Head of Water from the *Liffy* to *Dublin* also, and likewise from the *Liffy* to *Rathangan*.

No Cataract, or one perpendicular Stage of Locks does not appear.

But a Country with one almost uniform Risings and Fallings does appear.

It also appears to promise this Country's Wealth, for by this Course a Navigation is opened into the noble River *Barrow*, which is easily made navigable, most Parts already admit of Boats from place to place. The Communications will then be an Inland Navigation from all parts of the *Shannon* to *Limrick*, to *Dublin*, to *Waterford*, and from *Dublin* to *Waterford* and *Limrick*; *Waterford* is well known for its safe Harbour, and sudden Outlet on the first Wind. Craft can navigate to *Waterford* from the *Brosna* at all times, and a 200 Tun Barge can be towed to *Dublin* and *Waterford*, without the almost Impracticability, Danger, and Incon-

Inconvenience of great Loughs, as some parts of this Kingdom abounds with.

Will not its Sides be inhabited? ay, as thick as Midges, if there was a Bog of each Side 20 Miles broad.

Some REASONS offered.

MY Reason for calculating a Canal 30 Feet wide at a Medium is, that I suppose no less Craft than 200 Tun should be calculated for, to pass from the Mouth of the *Brosna* to *Dublin*, and the Locks made 20 Feet wide in the Clear of the Jambs; it is the Burthen of the Craft that makes the Goods go cheap to Market.

Another Reason I offer, for mentioning the Canal to be dug six Feet deep at a Medium, is, because one Part with another you can't dig more; as in all Ascents and Descents, the Water keeping its horizontal Surface, in one half of the Canal between Lock and Lock, the water will flow above the natural Surface of the Ground, and confined by its artificial Bank, at which End less sinking is required.

Another Reason I have to offer in Support of taking off eight Feet of Level at each Lock, and that is this; 432 Feet being the supposed Levels up and down between the *Shannon* and *Dublin* by Proportion; the Number of Locks at six Feet to each would be 72 Locks, at 8 Feet to each Lock is but 54, Difference between 54 and 72, is 18 Locks saved, which is a Fourth Number of Locks saved, and of Course a Fourth of the Lock Expence;

pence; for the Dispatch of the Craft forwarded to Market by lessening the Fourth Number of Locks, will sufficiently atone for building the remaining Locks 2 Feet higher, and save a considerable Sum in the Locks beside; neither will the Gates be at all unweildy or more troublesome.

These large Calculations may seem extravagant in the Eyes of the Author, &c. when as he proposeth (p. 12.) to shew ' the Feasibility of having ' a Reservoir at *Castleknock* Gate for the End of ' the Navigation from *Kilcock*, which is nine ' Miles, and to cost but 144 *l.* which is done by ' digging a Ditch at 1 s. 2 Perch (which is under ' the common Price of 5 and 6 Feet Ditches) and ' save the Publick all Obstructions.' The Feasibility of that Navigation Conduct I must own is unknown to me, perhaps some ingenious Engineer may hit it off. Or perhaps that Author's Intentions is for the Publick to try an Experiment on the Gentlemens Levels for that Space at 144 *l.* Expence; this I could not avoid taking Notice of, as my Calculations differ so very wide from his, that I might probably be highly censured for so extravagant a Canal.

Thus I have gone through that Pamphlet, as far as my Character was concerned, and in Justice to mention; as I don't take upon me to reply or answer said Pamphlet, as an Opponent, or Vanity of Scribbling, having a much more pleasing Employment, than even thinking of Disputes or Cavils of any Kind; I pay great Deference to the Author's Judgment, and shall leave what is not my Business to abler Engineers to discuss, and where that Author have been misled, the Assertions will of course vanish.

The

The Annexion of the Levels is as followeth;

	M. Q. P.	RISE. F. I.	FALL. F. I.
From the Shannon to Moxtown, —	1 2 0	3 7	
From Moxtown to Fairbane, —	6 0 0	8 7	
From Fairbane to Kincor, —	1 0 0	6 6	
From Kincor to Castle-coole, —	2 0 0	1 8	
From Castle-coole to Lumcloone, up Frankford River, —	4 0 0	2 0	
From Lumcloone to Frankford, —	4 0 0	23 7	
From Frankford to Ballyboy, —	0 3 38	20 5½	
From Ballyboy to Ballinacorgie, —	1 1 60	26 7½	
From Ballinacorgie to County River, —	0 3 66	7 0	
From County River to Killahy Mill, —	1 1 34	8 5½	
From Killahy to Togher Monahorana, —	0 2 18	7 2½	
From Togher Monahorana to Top of the Bog, —	0 2 36	25 6½	
From Top of the Bog to Lough Annah, —	0 1 38	— —	17 11½
From Lough Annah to Clondallee River, —	1 0 18	— —	4 3
From Clondallee River to the Barrow, at Lough Duff, —	2 1 10	— —	20 7½
	27 3 78	141 2½	32 10½
		32 10½	

Up and Down 174 1

Take 32 Feet 10 Inches and a Half from 141 Feet 2 Inches and a Half, there Remains 108 Feet 4 Inches Difference between the Brosna Mouth and the Barrow at Lough Duff.

N. B. In my Calculations, I mentioned 28 Miles to avoid Fractions, and Feet in whole Numbers.

In the Calculation there is a Mistake of one Foot, the Levels up and down being 174 Feet.

FINIS